SANTA CRUZ BIOTECHNOLOGY, INC.

TH (N-15): sc-7848

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The enzyme tyrosine hydroxylase (TH), also designated tyrosine 3-monooxygenase (TY3H), catalyzes the conversion of tyrosine to L-DOPA, which is the rate limiting step in the biosynthesis of catecholamines such as dopamine, adrenalin and noradrenalin. TH is thought to play a role in the pathogenesis of Parkinson's disease, which is associated with reduced dopamine levels. Two transcription factor binding sites in the proximal region of the TH gene, the TPA-responsive element (TRE) and the c-AMP responsive element (CRE), have been implicated in the complex regulation of the TH gene. TH is also known to be upregulated by the glia maturation factor (GMF), a Cdc 10/SWI6 motif-containing protein called V-1, and a variety of additional compounds.

REFERENCES

1. Stull, N.D., et al. 1996. Acidic fibroblast growth factor and catecholamines synergistically up-regulate tyrosine hydroxylase activity in developing and damaged dopamine neurons in culture. J. Neurochem. 67: 1519-1524.
2. Nagatsu, T., et al. 1998. Catecholamine synthesis and release. Overview. Adv. Pharmacol. 42: 1-14.
3. Haavik, J., et al. 1998. Tyrosine hydroxylase and Parkinson's disease. Mol. Neurobiol. 16: 285-309.
4. Trocme, C., et al. 1998. CRE and TRE sequences of the rat tyrosine hydroxylase promoter are required for TH basal expression in adult mice but not in the embryo. Eur. J. Neurosci. 10: 508-521.
5. Zaheer, A., et al. 1998. Overexpression of glia maturation factor (GMF) in PC12 pheochromocytoma cells activates p38 MAP kinase, MAPKAP kinase-2, and tyrosine hydroxylase. Biochem. Biophys. Res. Commun. 250: 278-282.
6. Yamakuni, T., et al. 1998. A novel protein containing Cdc10/SWI6 motifs regulates expression of mRNA encoding catecholamine biosynthesizing enzymes. J. Biol. Chem. 273: 27051-27054.

CHROMOSOMAL LOCATION

Genetic locus: TH (human) mapping to 11p15.5; Th (mouse) mapping to 7 F5.

SOURCE

TH (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TH of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7848 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

TH (N-15) is recommended for detection of TH of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TH siRNA (h): sc-36662, TH siRNA (m): sc-36661, TH shRNA Plasmid (h): sc-36662-SH, TH shRNA Plasmid (m): sc-36661-SH, TH shRNA (h) Lentiviral Particles: sc-36662-V and TH shRNA (m) Lentiviral Particles: sc-36661-V.

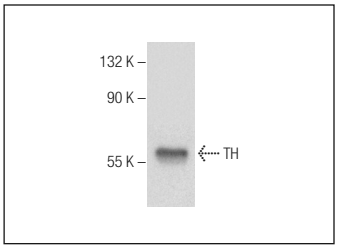
Molecular Weight of TH: 60 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, PC-12 + NGF cell lysate: sc-3808 or mouse brain extract: sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TH (N-15): sc-7848. Western blot analysis of TH expression in PC-12 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Bavis, R.W., et al. 2011. Hypoxic cventilatory response of adult rats and mice after developmental hyperoxia. Respir. Physiol. Neurobiol. 177: 342-346.

MONOS Satisfaction Guaranteed

Try **TH (F-11): sc-25269** or **TH (A-1): sc-374047**, our highly recommended monoclonal aternatives to TH (N-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **TH (F-11): sc-25269**.